



DEDICATED TO THE TRUE
PIONEERS OF SURGERY.

NEUROSURGERY

SEE MORE. STAND TALL.

AESCLAP® DIGITAL SURGICAL MICROSCOPE

SEE MORE

WITH THE AESCULAP® DIGITAL SURGICAL MICROSCOPE.



TRUE PIONEERS

DESERVE A BETTER VIEW.

In neurosurgery, where a few millimeters can decide between health and disability, proper vision means everything. Conventional optical microscopes have supported the work of surgeons for many decades and continue to fulfill this important task in the neurosurgical operating room. The hands of a neurosurgeon can't treat what his

eyes can't see, therefore a microscope which provides good vision is key to success in neurosurgery. Neurosurgeons should however not be content with solutions that are just "good", with limitations such as a relatively shallow depth of field, rather small field of view, or illumination challenges.

Challenges of the current technology in terms of vision



VISION

Small depth of field and field of view



LIGHT

Illumination challenges (1)



FLUORESCENCE

Inconvenient fluorescence imaging



WORKFLOW

Teamwork and teaching difficult

References

- (1) Kalani MY, Yagmurlu K, Martirosyan NL, Cavalcanti DD, Spetzler RF. Approach selection for intrinsic brainstem pathologies. *Journal of neurosurgery*. 2016;125(6):1596-607.

SEE MORE

TRUE PIONEERS DESERVE A BETTER VIEW.

READY FOR A NEW LEVEL OF VISION?

In order to perform their outstanding tasks with high precision, neurosurgeons deserve to literally see more, supported by advanced imaging equipment.

SEEING MORE THANKS TO IMPROVED DIGITAL IMAGING

The AESCULAP® Digital Surgical Microscope can provide the solution to many challenges of conventional optical technology. As a partner of neurosurgeons all over the world, we are committed to introduce groundbreaking Digital Surgical Microscopy technology to neurosurgical operating rooms. Every day, neurosurgeons give their best in the operating room to help patients – and we give our best to support their delicate and precise work with the development of valuable products.





» MORE INFORMATION AT A GLANCE

- Superior depth of field
- Wider field of view
- Superior illumination
- Backlight illuminated 3D fluorescence modes
- Improved teamwork and teaching

» FIND OUT MORE

We believe that neurosurgeons deserve to have superior vision. Find out how neurosurgeons can see more with our Digital Surgical Microscope – visit <http://braun.info/n2>



16:9 WIDE VIEW

STAND TALL

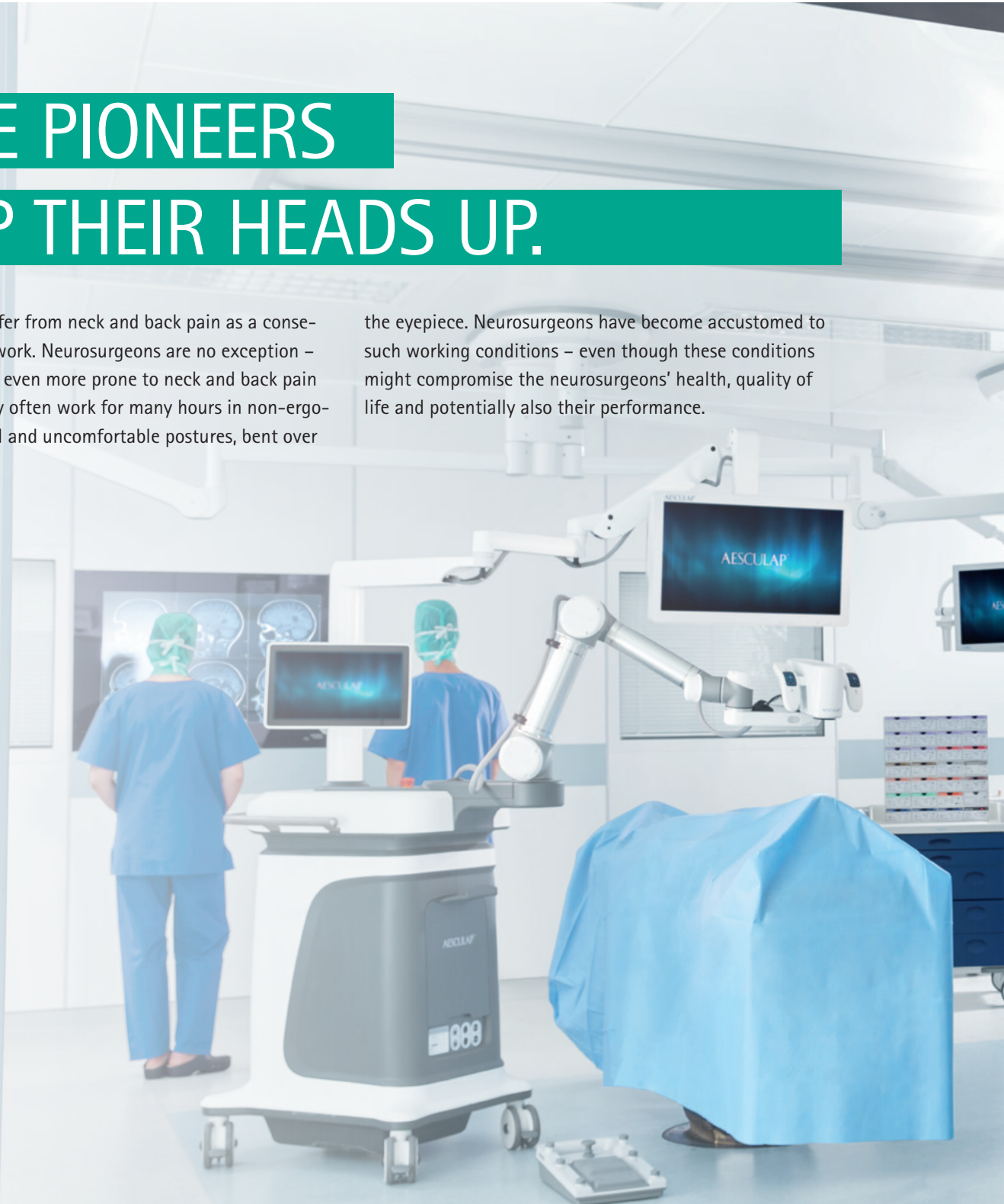
WITH THE AESCULAP® DIGITAL SURGICAL MICROSCOPE.

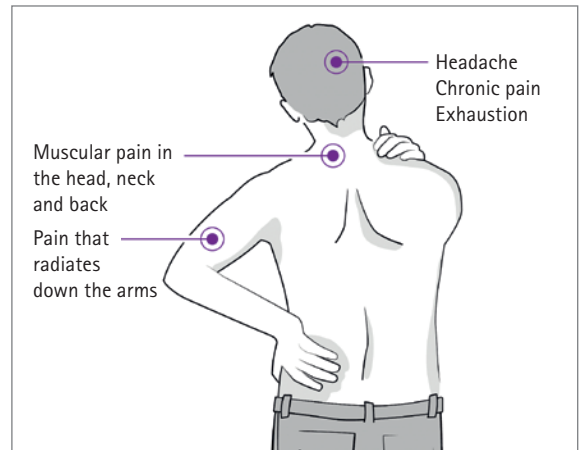
TRUE PIONEERS

KEEP THEIR HEADS UP.

Many people suffer from neck and back pain as a consequence of their work. Neurosurgeons are no exception – and they may be even more prone to neck and back pain than others. They often work for many hours in non-ergonomic, unnatural and uncomfortable postures, bent over

the eyepiece. Neurosurgeons have become accustomed to such working conditions – even though these conditions might compromise the neurosurgeons' health, quality of life and potentially also their performance.





Challenges of the current technology in terms of ergonomics



4 in 5

neurosurgeons report pain after a day of surgery (2).



83 %

of these had musculoskeletal pain (2).



1 in 2

surgeons confirm a negative effect on their performance (3).



For every inch the head moves forward, the head, neck and upper muscles must support an additional

10 pounds of weight (4).

References

- (2) Leica Microsystems survey of 59 neurosurgeons in the USA | 4 Kerstin Pingel for Leica Science Lab: 7 Tips For Better Ergonomics in Neurosurgery (2014).
- (3) Davis WT, Fletcher SA, Guillaumondegui OD. Musculoskeletal occupational injury among surgeons: effects for patients, providers, and institutions. J Surg Res, 2014 in Surgeon News, "Shape Shifters". 2017 Sep;28-30.
- (4) Kapandji A. The Physiology of the Joints, Volume 3. 6th ed. Churchill Livingstone, London, UK (2008).

STAND TALL

TRUE PIONEERS KEEP THEIR HEADS UP.

READY FOR A NEW LEVEL OF COMFORT?

Don't you think that neurosurgeons should have everything they need to execute their demanding, high-precision work under favorable ergonomic conditions? We believe that neurosurgeons deserve to be able to stand tall and work more smoothly in an upright position.

STANDING TALL THANKS TO IMPROVED ERGONOMICS

The AESCULAP® Digital Surgical Microscope provides remarkable vision quality on one or several 3D screens and therefore enables the neurosurgeons to maintain an ergonomically comfortable posture while performing the surgery.



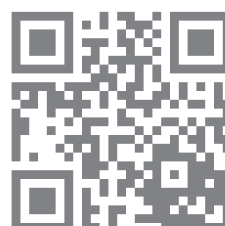
» ENHANCED WORKING COMFORT

- Look-over 3D heads-up surgery allows to work in an ergonomically comfortable posture
- Robotic-assisted features allow to position camera conveniently

» FIND OUT MORE

Find out more about robotic-assisted 3D heads-up surgery and how neurosurgeons can stand tall with our Digital Surgical Microscope – visit

<http://bbraun.info/n3>



BE EFFICIENT

WITH THE AESCULAP® DIGITAL SURGICAL MICROSCOPE.

PIONEERING ROBOTIC-ASSISTED DIGITAL PLATFORM.

In neurosurgery, millimeters and seconds can change everything. It is therefore of utmost importance that neurosurgeons can perform their sophisticated work under ideal conditions. The surgical microscope has been key to the neurosurgeons' success – however, there are some challenges with respect to efficiency.

A significant amount of the neurosurgeons' time during surgery is spent on constant repositioning, refocusing and readjustments of the microscope, which can prolong surgery by up to 10% (5). This is not ideal – fewer of these interruptions would make the workflow much more efficient.

Challenges of the current technology in terms of efficiency



VISION

Small depth of field and field of view



PAIN

Neck and back pain



ADJUSTMENTS

Manual repositioning

HEAT



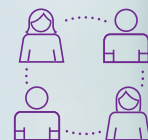
Risk of burns through xenon light

HIGH COSTS



Replacement of xenon lamps

WORKFLOW



Teamwork and teaching difficult

References

- (5) Eivazi S, Afkari H, Bednarik R, Leinonen V, Tukiainen M, Jaaskelainen JE. Analysis of disruptive events and precarious situations caused by interaction with neurosurgical microscope. *Acta Neurochir.* 2015;157(7):1147-54.



BE EFFICIENT

PIONEERING ROBOTIC-ASSISTED PLATFORM.

IMPROVED WORKFLOW

The AESCULAP® Digital Surgical Microscope allows for a more efficient workflow thanks to robotic-assisted features along with a remarkable vision quality. Assisted or automated positioning, superior depth of field and wider field of view are only some aspects that contribute to reduce interaction with the microscope and allow to completely focus on the task at hand.

IMPROVED WORKING CONDITIONS

Long hours in uncomfortable, non-ergonomic postures, bent over the eyepiece likely causes neck and back pain. Such pain may compromise the neurosurgeons' performance, with a potential economic impact for the department. With our Digital Surgical Microscope, however, neurosurgeons work heads-up in an upright and ergonomic posture.



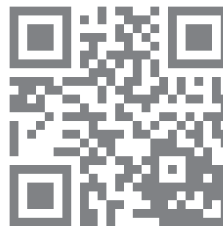
» BETTER EFFICIENCY

- More information at a glance
- Enhanced working comfort
- Facilitated workflows
- Forward-looking digital platform
- Reduced running cost due to LED illumination

» FIND OUT MORE

Discover even more ways in which the AEscULAP® Digital Surgical Microscope can help to improve efficiency.

Visit <http://bbraun.info/n4>



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